Message

From: Strynar, Mark [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=5A9910D5B38E471497BD875FD329A20A-STRYNAR, MARK]
Sent: 8/3/2018 1:23:29 PM
To: Johnson, Chris [chris.johnson@ncdenr.gov]
Subject: RE: [External] RE: Specifications for LCMSMS

Sure glad to look at it. Will you be at the listening session in Fayetteville on the 14th?

Mark

From: Johnson, Chris [mailto:chris.johnson@ncdenr.gov]
Sent: Thursday, August 02, 2018 4:29 PM
To: Strynar, Mark <Strynar.Mark@epa.gov>
Subject: RE: [External] RE: Specifications for LCMSMS

I've been tweaking the bid specifications for our LC/MS/MS system. Still have a little more work to do on them. Would it be OK for me to send them to you for your critique before I move them along? As I said before, this is all a little different than what I'm used to for conventional MS systems.

Chris Johnson
NC DEQ-DWR
Water Sciences Section
919-733-3908

From: Strynar, Mark [mailto:Strynar.Mark@epa.gov]
Sent: Tuesday, July 24, 2018 8:53 AM
To: Johnson, Chris <chris.johnson@ncdenr.gov>
Subject: [External] RE: Specifications for LCMSMS

Hi Chris,

Please just call me Mark. I think any LC-MS/MS will do the trick. I have good experience with AB Sciex, Waters and Agilent systems. The software is always the biggest hurdle. Most systems will now come with UPLC rather than HPLC (U for ultrahigh pressure) which gives better separation in sorter runs. The one thing I would insist on is and ESI (electro spray ionization source) as well as an APCI (atmospheric pressure chemical ionization) source when you get the quote. For the PFAS we are discussing ESI works great. To be amenable down the road to other analytes that do no ionize as well, APCI would be good to have. You should really have some minimum on column sensitivity threshold (example <0.5 picograms on column) to be sure you get the most sensitive MS/MS system. You could challenge the vendors and get them to demonstrate their sensitivity. The reason I suggest this is if you want to see a water sample with 1 ng/L of Nafion BP2 that is the same as 1 pg/mL or 1 fg/uL. If you inject 25-50 uL of water (thus 25 – 50 fg on column) and can avoid SPE for concentration that will save you a lot of work in the long run. If you can inject larger volumes (sometimes called large volume injection capability) you can bump sensitivity 2-4x. I have colleagues as AB Sciex, Waters and Agilent I could put you in touch with. I can't speak for all vendors but I was recently impressed with the demonstrated on column sensitivity of an AB Sciex system.

Here are things I would ask for:
UPLC or UHPLC for LC system (UPLC vs UHPLC is a vendor specific term)
ESI and APCI source
Dedicated nitrogen generator (thus no need to use N2 tanks)
MS/MS with some threshold minimum sensitivity (<0.5 pg OC for test compounds)
Large volume injection capability

Let me know if you need more.

Mark

From: Johnson, Chris [mailto:chris.johnson@ncdenr.gov]
Sent: Monday, July 23, 2018 3:55 PM
To: Strynar, Mark <Strynar.Mark@epa.gov>
Subject: Specifications for LCMSMS

Good afternoon, Dr. Strynar.

We are moving forward with purchase of a LC/MS/MS for use in targeted testing of the PFAs and Nafion by-products. I would appreciate any documentation that you may have related to the bid specifications you used when you quoted your instrument (if available.) If unavailable, could you give me a bullet-point list that I can use to fine tune our specifications? Also, if we would be receiving methodology from your group related to this testing, is there any brand-specific requirements?

Thank you for your time. Hope you and the crew are all doing well. Hope to talk with you again soon.

Chris Johnson
Environmental Program Supervisor
Water Sciences Section / Organic Chemistry Branch

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